

In the Claims

For the convenience of the Examiner, all pending claims are provided below. Please refer to Appendix B for mark-ups reflecting changes to the claims.

- A1
1. **(Amended)** A system for generating notification messages, comprising:
    - a plurality of applications, each application generating event messages;
    - an event router in communication with the applications, wherein the router receives the event messages and communicates selected subsets of the event messages to one or more alert managers according to stored registration information specifying, for each of a plurality of sets of event messages, one or more of the alert managers to which the set of event messages should be communicated;
    - an alert manager in communication with the router for receiving a first selected subset of the event messages from the event router if the alert manager has registered with the event router to receive the first selected subset of the event messages, the alert manager having registered with the event router by communicating registration information to the event router specifying that the first selected subset of the event messages is to be communicated to the alert manager upon receipt at the event router; and
    - a plurality of rules within the alert manager, each rule having an associated notification, each rule registered to act upon selected event messages within the first selected subset of event messages received from the event router;
    - upon the alert manager receiving an event message within the first selected subset of event messages received from the event router, the alert manager operable to evaluate all rules registered to act upon the event message and, for all rules registered to act upon the event message that evaluate to True, the alert manager operable to send the associated notifications to one or more users.

2. **(Amended)** The system of Claim 1, wherein at least one of the plurality of applications comprises:
  - a database having data which can be changed; and
  - a job that periodically examines the database and generates an event message when selected data items in the database have changed from a previous examination.

~~7~~  
~~3.~~

(Amended) A system for generating notifications, comprising:

a plurality of applications that each generate event messages;

a router in communication with the applications, the router operable to receive the event messages;

A1 a plurality of event handlers in communication with the router, each event handler operable to receive one or more of the event messages received by the router, each event handler communicating registration information to the router specifying which event messages should be communicated by the router to the event handler upon receipt of the event messages at the router; and

a set of rules within the router, the set of rules being determined by the registration information received from each event handler, each rule being associated with a selected subset of the event messages and comprising at least one conditional statement to be applied to its associated selected subset of the event messages;

when the router receives an event message, the router is operable to evaluate the one or more rules associated with the event message, and for rules that evaluate to True, forward the event message to the one or more event handlers registered to receive the event message.

~~8~~  
~~4.~~

(Amended) The system of Claim ~~3~~<sup>7</sup>, wherein at least one of the plurality of applications comprises:

a database having data which can be changed; and

a job that periodically examines the database and generates an event message when selected data items in the database have changed from a previous examination.

~~16~~  
~~5.~~

(Amended) A method for generating notifications, comprising:

generating event messages within one or more applications;

sending the event messages to a router in communication with the applications, the router operable to receive the event messages;

within the router, registering event handlers to be notified upon receipt by the router of any of a selected subset of the event messages, each event handler having communicated registration information to the router to register with the router, the registration information

specifying the selected subset of the event messages about which the event handler is to be notified;

within the event handlers, providing a set of rules to be evaluated, each rule being associated with a selected subset of the event messages, each rule having a corresponding action to be executed if the rule evaluates True; and

when an event handler is notified that the router has received an event message within the selected subset of event messages for which the event handler has registered, evaluating the one or more rules associated with the event message and executing any actions for rules that evaluate True.

<sup>17</sup>~~6.~~ The method of Claim <sup>16</sup>~~5~~, wherein an action to a rule comprises sending a message to a user.

<sup>18</sup>~~7.~~ (Amended) The method of Claim <sup>16</sup>~~5~~, wherein the application comprises:  
a database having data which can be changed; and  
a job that periodically examines the database and generates an event message when selected data items in the database have changed from a previous examination.

<sup>3</sup>~~8.~~ (New) The system of Claim 1, wherein the alert manager comprises:  
a rules portion comprising the rules, the rules comprising conditional statements defining when a notification is to be generated and the one or more users to receive the notification; and

a notification portion comprising a plurality of pre-selected notification messages to be sent as the notification to the one or more users when the one or more users are determined to receive the notification by the rules portion of the alert manager.

<sup>4</sup>~~9.~~ (New) The system of Claim 1, wherein the alert manager is operable to receive registration information from a user, the registration information defining a portion of the rules within alert manager, the registration information indicating when the user is to receive a notification and the contents of the notification.

<sup>5</sup>  
~~10.~~ (New) The system of Claim 1, wherein the notification comprises at least one of a message communicated via:

electronic mail;  
a facsimile machine;  
a telephone; or  
a paging device.

A8 <sup>6</sup>  
~~11.~~ (New) The system of Claim 1, wherein at least one of the plurality of applications comprises code that explicitly generates event messages to be communicated to the event router.

<sup>9</sup>  
~~12.~~ (New) The system of Claim <sup>7</sup>~~3~~, wherein at least one of the event handlers is synchronous, the event messages for which a particular synchronous event handler has registered with the router to receive being forwarded by the router directly to the particular synchronous event handler.

<sup>10</sup>  
~~13.~~ (New) The system of Claim <sup>9</sup>~~12~~, wherein at least one of the event handlers is asynchronous, the event messages for which a particular asynchronous event handler has registered with the router to receive being forwarded by the router to a queue associated with the particular asynchronous event handler, the event messages being withdrawn from the queue by the particular asynchronous event handler associated with the queue.

<sup>11</sup>  
~~14.~~ (New) The system of Claim <sup>10</sup>~~13~~, wherein the registration information communicated to the router by each event handler indicates whether the event handler is a synchronous event handler or an asynchronous event handler.

<sup>12</sup>  
~~15.~~ (New) The system of Claim <sup>11</sup>~~14~~, wherein more than one queue is provided, each queue being associated with at least one asynchronous event handler, the registration information communicated to the router by each asynchronous event handler indicating the appropriate queue to which the router should forward each event message the asynchronous event handler has registered to receive.

<sup>13</sup>  
~~16.~~ (New) The system of Claim <sup>7</sup>~~3~~, wherein at least one event handler comprises an alert manager operable to communicate an event notification to one or more users registered with the alert manager, the alert manager comprising:

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a rules portion comprising one or more conditions, each condition being associated with one or more of the users registered with the alert manager, the conditions defining when an event notification is to be generated and communicated to each of the one or more users; and

a notification portion comprising a plurality of pre-selected notification messages to be sent as the event notification to the one or more users when the one or more users are determined to receive the event notification by the rules portion of the alert manager.

<sup>14</sup>  
~~17.~~ (New) The system of Claim <sup>13</sup>~~16~~, wherein the event notification is communicated to the user via:

electronic mail;

a facsimile machine;

a telephone; or

a paging device.

<sup>15</sup>  
~~18.~~ (New) The system of Claim <sup>7</sup>~~3~~, wherein at least one of the plurality of applications comprises code that explicitly generates event messages to be communicated to the router.

<sup>16</sup>  
~~19.~~ (New) The method of Claim <sup>7</sup>~~5~~, wherein at least one of the event handlers is synchronous, the notifications that the router has received an event message for which a particular synchronous event handler has registered to receive notification being forwarded by the router directly to the particular synchronous event handler.

20. (New) The method of Claim 19, wherein at least one of the event handlers is asynchronous, the notifications that the router has received an event message for which a particular asynchronous event handler has registered to receive notification being forwarded

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by the router to a queue associated with the particular asynchronous event handler, the notifications being withdrawn from the queue by the particular asynchronous event handler associated with the queue.

21. (New) The method of Claim 20, wherein the registration information received at the router from each event handler indicates whether the event handler is a synchronous event handler or an asynchronous event handler.

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22. (New) The method of Claim 21, comprising providing more than one queue, each queue being associated with at least one asynchronous event handler, the registration information communicated to the router by each asynchronous event handler indicating the appropriate queue to which the router should forward notifications that the router has received an event message for which the asynchronous event handler has registered to receive notification.

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23. (New) The method of Claim ~~5~~, wherein at least one event handler comprises an alert manager, an action to a rule comprising communicating an event notification to one or more users registered with the alert manager, the alert manager comprising:

a rules portion comprising the set of rules to be evaluated, the set of rules comprising one or more conditions associated with one or more users registered with the alert manager, the conditions defining when an event notification is to be generated and communicated to the one or more users; and

a notification portion comprising a plurality of pre-selected notification messages to be sent as the event notification to the one or more users when the one or more users are determined to receive the event notification by the rules portion of the alert manager.

24. (New) The method of Claim 23, comprising communicating the event notification to the user via:

electronic mail;

a facsimile machine;

a telephone; or

a paging device.

25. (New) The method of Claim <sup>16</sup>5, wherein at least one of the plurality of applications comprises code that explicitly generates event messages to be communicated to the event router.

A8 26. (New) Software for generating notifications, the software being embodied in computer readable media and when executed operable to:

generate event messages within one or more applications;

send the event messages to a router in communication with the applications, the router operable to receive the event messages;

within the router, register event handlers to be notified upon receipt by the router of any of a selected subset of the event messages, each event handler having communicated registration information to the router to register with the router, the registration information specifying the selected subset of the event messages about which the event handler is to be notified;

within the event handlers, provide a set of rules to be evaluated, each rule being associated with a selected subset of the event messages, each rule having a corresponding action to be executed if the rule evaluates True; and

when an event handler is notified that the router has received an event message within the selected subset of event messages for which the event handler has registered, evaluate the one or more rules associated with the event message and executing any actions for rules that evaluate True.

27. (New) The software of Claim 26, wherein an action to a rule comprises sending a message to a user.

28. (New) The software of Claim 26, wherein the application comprises:  
a database having data which can be changed; and  
a job that periodically examines the database and generates an event message when selected data items in the database have changed from a previous examination.

29. (New) The software of Claim 26, wherein at least one of the event handlers is synchronous, the notifications that the router has received an event message for which a particular synchronous event handler has registered to receive notification being forwarded by the router directly to the particular synchronous event handler.

AS 30. (New) The software of Claim 29, wherein at least one of the event handlers is asynchronous, the notifications that the router has received an event message for which a particular asynchronous event handler has registered to receive notification being forwarded by the router to a queue associated with the particular asynchronous event handler, the notification being withdrawn from the queue by the particular asynchronous event handler associated with the queue.

31. (New) The software of Claim 30, wherein the registration information received at the router from each event handler indicates whether the event handler is a synchronous event handler or an asynchronous event handler.

32. (New) The software of Claim 31, further operable to provide more than one queue, each queue being associated with at least one asynchronous event handler, the registration information communicated to the router by each asynchronous event handler indicating the appropriate queue to which the router should forward notifications that the router has received an event message for which the asynchronous event handler has registered to receive notification.

33. (New) The software of Claim 26, wherein at least one event handler comprises an alert manager, an action to a rule comprising communicating an event notification to one or more users registered with the alert manager, the alert manager comprising:

a rules portion comprising the set of rules to be evaluated, the set of rules comprising one or more conditions associated with one or more users registered with the alert manager,



the conditions defining when an event notification is to be generated and communicated to the one or more users; and

a notification portion comprising a plurality of pre-selected notification messages to be sent as the event notification to the one or more users when the one or more users are determined to receive the event notification by the rules portion of the alert manager.

34. (New) The software of Claim 33, operable to communicate the event notification to the user via:

- electronic mail;
- a facsimile machine;
- a telephone; or
- a paging device.

35. (New) The software of Claim 26, wherein at least one of the plurality of applications comprises code that explicitly generates event messages to be communicated to the event router.

36. (New) A system for generating notifications, comprising:

- means for generating event messages within one or more applications;
- means for sending the event messages to a router in communication with the applications, the router operable to receive the event messages;
- means for, within the router, registering event handlers to be notified upon receipt by the router of any of a selected subset of the event messages, each event handler having communicated registration information to the router to register with the router, the registration information specifying the selected subset of the event messages about which the event handler is to be notified;
- means for, within the event handlers, providing a set of rules to be evaluated, each rule being associated with a selected subset of the event messages, each rule having a corresponding action to be executed if the rule evaluates True; and
- means for, when an event handler is notified that the router has received an event message within the selected subset of event messages for which the event handler has

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registered, evaluating the one or more rules associated with the event message and executing any actions for rules that evaluate True.

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